Proposed Plan for Twelve Environmental Restoration Program Sites

Whiteman Air Force Base, MO

Introduction

The Environmental Restoration Program (ERP) at Whiteman Air Force Base (AFB), Knob Noster, Missouri, is charged with identifying, assessing, and cleaning up or controlling contamination from past hazardous waste disposal operations and hazardous material spills. The ERP is carried out in compliance with federal, state, and local laws and regulations, in particular the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended in 1986 by the Superfund Amendments and Reauthorization Act.

In 2004, Whiteman AFB embarked on a program to complete closure of historical ERP sites that had been evaluated during the life of the program. Investigations for many of these sites were completed some time ago, but formal closure had not been achieved. The Results - Based Product Delivery Task Order for Regulatory Site Closures of 26 ERP Sites at Whiteman AFB Remedial Investigation (RI) Work Plan summarized all available information on the sites and presented a risk evaluation of contamination at the sites, if present (CH2M HILL, February 2005). This document is available for review at the Central Missouri State University Library (see Community Participation).

This Proposed Plan presents the closure for 12 of those sites in accordance with the requirements of CERCLA § 117(a) and the National Contingency Plan § 300.430(t)(2). The evaluation of these sites concluded that the residual contamination at the sites did not present a risk under the current and anticipated future industrial land use scenario or the possible future residential land use scenario. A description of each site, including residual contamination and evaluation of risk, is described in this Proposed Plan. The ten remaining ERP sites will be presented in separate proposed plans.

The United States Air Force (USAF) is the lead agency for this program and has worked closely with the Missouri Department of Natural Resources (MDNR) to evaluate each site in the program. MDNR has agreed with the recommendations presented in this plan. Public comment is an important contribution to the process and may result in modification to the plan. The public is encouraged to review and comment on this document. Public input to the Proposed Plan will be documented in a responsiveness summary report that will be included in a Record of Decision that documents site closure.

Copies of site documents are available for review at the Central Missouri State University Library (see Community participation). This proposed plan as well as other information on the Missouri Hazardous Waste Program can be found at http:\\www.dnr.mo.gov\alpd\hwp\index.html.

Location and History

Whiteman AFB is located in west central Missouri, in Johnson County, about 2 miles south of Knob Noster. The base is about 9 miles east of Warrensburg, 22 miles west of Sedalia and 70 miles southeast of Kansas City. The 12 ERP sites included in this plan are described below.

Site SS-06 Drum Storage Area was a storage area located on the eastern side of Building 9, a maintenance facility located along the western edge of the flight line and aircraft apron (west of the runway). Chemicals used at the facility included oils, hydraulic fluids, solvents, and degreasers, and these may have been stored in drums placed on the ground surface or on a gravel pad. Before the drum storage area was abandoned in 1988, numerous small spills were reported. Surface soil was removed from the area in 1990 during reconstruction of the area.

Sites SD-07 and SS-40 Aircraft Wash Rack Drains/Spill Site represents a former aircraft washrack area and drainage ditches that conveyed water from the washrack area to a lake located at the north end of the base. Washrack activities included using solvents for washing aircraft and general maintenance activities. Water collected in the washrack area was processed through an oil-water separator before being discharged to the ditch system. Solvents may have been emulsified or dissolved in water, resulting in flow through the oil-water separator to the ditch. The washrack, oil-water separator, and associated piping were removed in the early 1990s, and Building 1 was constructed over the footprint of the washrack. As part of the reconstruction, the drainage ditches near the oil-water separator were replaced with storm sewer pipes.

Site LF-08 Landfill 1 represents an old drainageway that was partially filled with waste material during the 1940s and 1950s. The bulk of the waste material was removed during construction of the Officer's Club in the early 1990s. However, during investigation of the site, groundwater contamination was detected east of the landfill, in the area of the former Civil Engineer's Compound. The contamination appears to be the result of a spill or several spills of solvents.

Site SS-15 Drum Burial Area is the site of buried debris along a creek north of Bennett Lake. The buried debris is located within gully or trench features and is scattered over the surface of the site. Chunks of metal, wood, brick, and cloth were observed at the site.

Site ST-17 Facility 92 UST Area was a complex of 12 underground storage tanks (USTs) removed in 1991 as part of the reconstruction of the taxiway and hangar system in support of the B-2 bombers

facility needs. Leak testing indicated the integrity of the tanks were not compromised, and confirmation samples were collected during removal of the tanks to verify that no contamination was left at the site.

Site ST-19 Facility 101/102 included five 25,000-gallon and five 1,000-gallon USTs that were used for storage of diesel fuel and gasoline (Facility 101) and one 125,000-gallon aboveground storage tank (AST) (Facility 102) used to store JP-8 aviation fuel. A fuel spill was reported to have occurred in the mid 1980s when heavy rainfall flooded the 25,000-gallon tanks, displacing fuel and contaminating the surrounding soils. The 25,000-gallon USTs were removed in 1998 along with contaminated soil, and the site was closed in accordance with MDNR UST Closure Guidance. The 1,000-gallon USTs were closed in place, and the AST was removed in 1992.

Site ST-20 Facility 158 represents a former fuel tank farm consisting of three 12,000-gallon USTs. The tanks were removed in 1997 and 1998, and contaminated soil was removed in accordance with state guidelines.

Site OT-23 Firing Range consists of soil excavated from two separate areas in pistol, rifle, and machine-gun practice firing ranges. The soil, which was contaminated with lead, was consolidated into one area and was stabilized using a patented chemical treatment process (MAECTITE®) that reduced the leachability of metals. The treated soil was covered with clean soil.

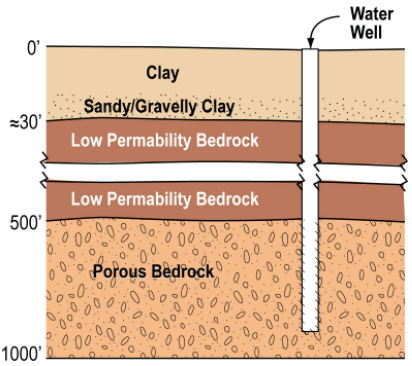
Site ST-26 Facility 94 Communications Building represents a former UST, which was excavated in 1992, at the Communications Building located near the eastern boundary of the base. Testing in the area identified the presence of solvents in groundwater. While not related to the removed UST, the solvent contamination was included in the site evaluation.

Site DP-32 Old Hospital Incinerator represents a former water treatment plant and possible burn pit located near the intersection of Barksdale Lane and Minuteman Drive. Historical documents indicate that waste solvents may have been disposed of in the area and groundwater contamination was observed. The site is adjacent to a drainageway that receives groundwater flow. A trench filled with organic mulch was installed in 2004 to treat groundwater before it reaches the drainage way.

Site SS-35 Hobby Shop Spill Site is the location of a former Hobby Shop used primarily for vehicle maintenance until it burned down in 1970. Materials used at the facility included solvents and fuels.

Geology and Hydrogeology

The geology at Whiteman AFB is fairly consistent across the base and consists of clay soil overlying shale bedrock. With the exception of areas with surface fill, the clay is present from ground surface to a maximum depth of 40 feet. In parts of the area, the clay is underlain by a wet sandy to gravelly clay layer derived from the weathering of shale bedrock. In other locations, minor amounts of shale fragments were observed within the clay, most often near bedrock.



Subsurface Geology

Groundwater of interest at the ERP sites flows within the clay, predominantly within the wet sandy to gravelly clay layer at the bedrock surface. This shallow groundwater system is created by the infiltration of precipitation and typically discharges to local streams. The shallow groundwater is not used as a source of water supply. Wells for drinking water extend to deep aquifers underlying the base at depths of 1,000 to 1,200 feet below ground. There is no known connection between the shallow groundwater and the deep aquifers used for drinking water.

Summary of Site Risks

All 12 sites were investigated for surface soil, subsurface soil, and groundwater contamination and, where present, surface water and sediment contamination. Chemicals detected in soil, groundwater, surface water, sediment, and soil gas at the sites were compared to conservative risk-based criteria to determine contaminants of potential concern (COPCs) with respect to human health and constituents of potential ecological concern (COPECs) for ecological effects. The COPCs and COPECs were evaluated in detail to quantify the risk. The quantified risk was compared to criteria established by the State of Missouri through the cleanup levels for Missouri (CALM) guidance document. The evaluation of human health considered industrial workers, construction workers, and potential future adult and child residents. The ecological evaluation considered the current site habitat and potential exposure of terrestrial and aquatic receptors. COPCs and COPECs for each of the 12 sites and the risk associated with the contaminants, if any, are listed on the table shown on page 3 along with a description of the likely source of each contaminant listed.

Site	Contaminants of Potential Concern of Constituents of Potential Ecological Concern	Human Health Risk?	Ecological Risk?	Comments
SS-06	None	No	No	Surface soil that may have been contaminated was removed in 1990; the area was resampled after the removal
SD-07/SS-40	Soil: Lead and 3,3'-dichlorobenzidine [c] Groundwater: TCE, c12DCE, and selenium [a, c]	No	No	Small solvent groundwater plume and other contaminants probable result of spill of materials used for aircraft maintenance
LF-08	Soil: Lead, arsenic, barium, cadmium [b, c, d] Groundwater: TCE, c12DCE, VC, and benzene [a, b] Surface Water: Aluminium, barium, cadmium, cobalt, copper, iron, lead, manganese, zinc [b, c, d] Sediment: PAHs [e]	No	No	Large solvent groundwater plume probable result of spill(s); inorganics in soil and surface water likely related to compounds naturally present in soil; PAHs may be related to runoff from waste material
SS-15	Soil: Acrolein, copper, lead, mercury, selenium, zinc, PAHs [b, c, d, e] Groundwater: TCE and 1,3,4-TMB [a, b]	No	No	Miscellaneous contaminants associated with debris or disposal of waste materials
ST-17	None	No	No	No evidence of fuel release in samples taken after excavation of tanks
ST-19	Soil: Lead and benzene [b]	No	No	Contaminants associated with fuel from storage tanks
ST-20	Soil: 1,3,4-TMB [b] Groundwater: Benzene and 12DCA [a, b]	No	No	Contaminants associated with fuel from storage tanks and solvents from maintenance activities
OT-23	None	No	No	Lead is stabilized and is not bioavailable, i.e., cannot be absorbed into the body
ST-26	Groundwater: TCE and c12DCE [a]	No	No	Contaminants associated with solvents used at facility for maintenance
DP-32	Soil: TCE, c12DCE, 3,3'-dichlorobenzidine [a, c] Groundwater: TCE, c12DCE, VC, methyl chloride, dichloromethane [a] Surface Water: TCE, VC, 3,3'-dichlorobenzidine [a, c] Sediment: arsenic, PAHs [c, d, e]	No	No	Contaminants associated with solvents and miscellaneous materials possibly disposed of at site; PAHs may be result of particulate from burning activities which deposited in sediment
SS-35	Soil: TCE, c12DCE, VC [a] Groundwater: TCE, c12DCE, VC, CT [a]	No	No	Contaminants associated with solvents used at facility for maintenance

Key:

[a] Typical solvents and their breakdown products used in maintenance and repair activities: TCE (trichloroethene), c12DCE (cis-1,2-dichloroethene), VC (vinyl chloride), 12DCA (1,2-dichloroethane), CT (carbon tetrachloride).

[b] Chemicals related to fuel products (gasoline, jet fuel, diesel fuel, lubricants): benzene, lead, 1,3,4-TMB (trimethylbenzene).

[c] Other chemicals that may be related to other products such as paints or pesticides: 3,3'-dichlorobenzidine, acrolein, arsenic, cadmium, copper, lead, mercury, selenium, zinc.

[d] Inorganics whose presence may be related to natural concentrations in soil: aluminum, arsenic, barium, cadmium, cobalt, copper, iron, lead, manganese, zinc.

[e] PAHs (polycyclic aromatic hydrocarbons) are formed during incomplete burning of coal, oil and gas, or organic substances and are commonly associated with soot, asphalt, and automobile or aircraft exhaust.

Remedial Alternatives

Evaluation of the 12 ERP sites included in this Proposed Plan indicates that the risk posed by residual contamination, if any, is within the range considered acceptable in the Missouri CALM guidance document. Therefore, the USAF believes no remedial action is required at these sites. The location of the sites will be noted in the Base General Plan so that future planners are aware of these sites in the event that residual contamination is observed in the future. However, there are no restrictions to future base activities at these locations.

Community Participation

USAF and MDNR provide information regarding the ERP sites at Whiteman AFB through semiannual meetings of the Restoration Advisory Board, the installation Administrative Record, and various announcements, fact sheets, and public notices published in local newspapers and other media. The public is encouraged to refer to these sources to stay informed of issues pertaining to the restoration of contaminated sites at Whiteman AFB. The Restoration Advisory Board is an advisory group of community members and state and federal regulators. Additional information on the group and how you can join will be available at the May Public Availability session.

The Whiteman AFB Administrative Record is located at:
Government Documents Room
Central Missouri State University—Library
South and College Street
Warrensburg, Missouri
Phone: (660) 543–4149

A Public Availability Session will be held to give citizens the opportunity to comment upon this Proposed Plan for the 12 ERP Sites at Whiteman AFB. Details of the meeting are provided below:

Public Comment Period:	April 27 - May 31, 2005
Public Availability Session:	May 19, 2005, 7:00 PM
Availability Session Location:	Panther Steak House Knob Noster, Missouri

To submit written comments on this Proposed Plan, please contact:
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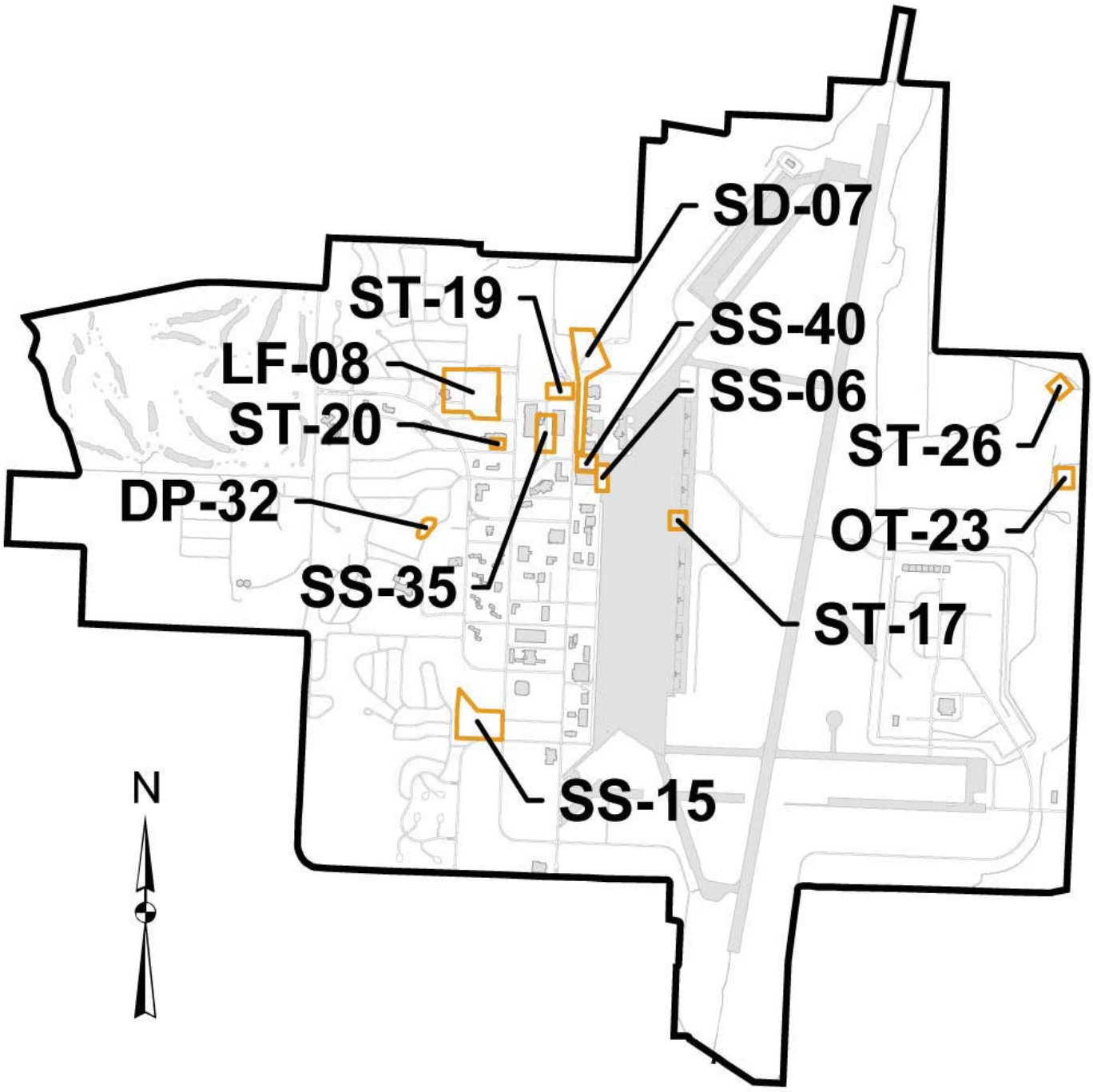

Location of Twelve ERP Sites